ORIGINAL

OPEN MEETING AGENDA ITEM

BEFORE THE ARIZONA CORPORATION COMMISSION

Commissioners:
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AZ CORP COMMISSION
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IN THE MATTER OF THE APPLICATION OF SUNZIA TRANSMISSION LLC, IN CONFORMANCE WITH THE REQUIREMENTS OF ARIZONA REVISED STATUTES 40-360, ET SEQ., FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AUTHORIZING THE SUNZIA SOUTHWEST TRANSMISSION PROJECT, WHICH INCLUDES THE CONSTRUCTION OF TWO NEW 500 KV TRANSMISSION LINES AND ASSOCIATED FACILITIES ORIGINATING AT A NEW SUBSTATION (SUNZIA EAST) IN LINCOLN COUNTY, NEW MEXICO, AND TERMINATING AT THE PINAL CENTRAL SUBSTATION IN PINAL COUNTY, ARIZONA. THE ARIZONA PORTION OF THE PROJECT IS LOCATED WITHIN GRAHAM, GREENLEE, COCHISE, PINAL, AND PIMA COUNTIES.	DOCKET NO. L-00000YY-15-0318-00171 Case No. 171

REQUEST FOR REVIEW

Arizona Corporation Commission
DOCKETED

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On November 24, 2015, the Arizona Power Plant and Line Siting Committee ("Committee") submitted for filing with the Arizona Corporation Commission ("Commission") its Decision and Certificate of Environmental Compatibility ("CEC") in the above-captioned matter. Pursuant to A.R.S. § 40-360.07.A and B and A.A.C. R13-3-214, as an intervening party I hereby submit my request that the Commission review and reject the CEC as approved by the Committee for the following reasons.

I. INTRODUCTION

SunZia Transmission, LCC proposes to build two 500-kilovolt transmission lines from near Corona, New Mexico in central New Mexico to the Pinal Central substation near Eloy, Arizona. The system would have a capacity of 3,000 megawatts if two AC lines are constructed and 4,500 megawatts if an AC and DC line are constructed. This project is not being built in direct response to the needs of Arizona or California utilities but is predominantly a merchant project proposed to increase the ability of mostly New Mexico energy developers to compete in western energy markets. Western utilities themselves do not need access to New Mexico power to meet future renewable or conventional energy needs.

As noted in testimony by intervenors Meader and Else, the SouthWestern Power Group (SWPG) initially conceived SunZia in 2006 as a single 500-kilovolt line linking the future Pinal Central substation with the Afton generating southwest of Las Cruces, New Mexico, with SWPG's permitted but unbuilt Bowie, Arizona, power station serving as the hub of the project. In 2008 the project was expanded to central New Mexico by taking over the southern leg of the proposed High Plains Express Project (HPX) between Corona, New Mexico, and Phoenix. The full HPX Project would link Wyoming with Arizona and was suspended in 2008 following completion of two feasibility studies that raised concerns about project risk and uncertainty.

II. THE LACK OF AN ARIZONA NEED FOR IMPORTED RENEWABLE ENERGY

The integrated resource plans of Arizona utilities show that the amount of renewable energy they need and the time frame in which they need it cannot support a project on SunZia's scale, as Tucson Electric Power has noted (Exhibit NMM-7). A much larger demand is required, which only California has the potential to provide. Arizona's own solar resource is huge, providing more than 300 times the capacity needed to meet all of our power requirements, and

while Arizona's wind resources are not nearly on the scale of New Mexico's, they are still sufficient to meet our very modest in-state needs for that kind of energy. While California is the principal target of the power SunZia would deliver, California utilities themselves have expressed no need for or interest in this energy, and California's developers have shown that the state's own resources are sufficient to meet all of its renewable energy needs, however large they are. Thus the stated need and purpose of SunZia is questionable.

III. CONFLICTS WITH ARIZONA RENEWABLE ENERGY DEVELOPMENT AND EXPORT

In order to reach the California market, New Mexico renewable energy developers must utilize transmission capacity in central and western Arizona that is vital to our own stated plans to develop and export our rich solar resource to California (Exhibit NMM-3). Arizona's solar potential along the 500-kilovolt transmission lines that SunZia must use beyond Pinal Central to deliver power is some of the best in the nation (Exhibit NMM-35). Electrical District 4 estimates the developable solar potential around Pinal Central alone at 5,000-7,000 megawatts (Exhibit NMM-29). In addition, the solar potential adjacent to the 500-kilovolt lines between Pinal Central and the Palo Verde hub and between the Palo Verde hub and Yuma and Quartzite ranges in the thousands of megawatts.

For SunZia to succeed, New Mexico developers must sell very large blocks of renewable energy to California utilities, and the success of a single SunZia line could consume more than 1,000 megawatts of central and western Arizona transmission capacity that is essential to developing these solar resources. SunZia's CEC Application makes no provision for compensating for this use and protecting Arizona's renewable energy development and export interests from it. Such a provision is needed.

IV. LACK OF NECESSARY TRANSMISSION CAPACITY BEYOND PINAL CENTRAL TO DELIVER POWER TO MARKET

As noted in my testimony of November 2, 2015, Arizona demand for New Mexico power in the time frame required for construction would be far too small to support a project of SunZia's scale. Only the large California utilities have the potential to purchase enough power to financially support the project. Arizona Public Service, which appears the most likely Arizona purchaser of SunZia power given Mr. Sankaran's testimony for SunZia, has no transmission lines that reach the Pinal Central Substation and would, in itself, have to purchase capacity on the Salt River Project's transmission system to access power.

Assessing the amount of Available Transfer Capability (ATC) on SRP's lines to deliver power to the California and APS markets is thus essential to determining SunZia's potential for success. ATC is a measure of the transmission capacity that is available for sale. In Exhibit ACC-5, SRP stated that it has never conducted a study of how much capacity on its system may be commercially available to deliver power to the California and APS markets. SunZia indicated that it has reviewed Total Transfer Capability only and do not know how much transmission capacity would be available. The Project has proceeded this far without assessing how much power can actually be sold to the required markets. SunZia has merely assumed that the full capacity of its lines can be.

Testimony and exhibits provided by myself (November 2, 2015) and SunZia (October 22, 2015) indicate that less than 1,500 megawatts of transmission capacity may be commercially available to deliver power beyond Pinal Central, which would mean that only one SunZia line can be financed and built without adding transmission capacity. Two SunZia AC lines have a rating of 3,000 megawatts of transfer capability, while the capacity of a combination of one AC line and one DC line would be 4,500 megawatts, far more that the apparent availability of

commercial capacity of SRP's transmission system. The following factors determine this potential limitation:

1. The new 500-kilovolt transmission line from Pinal Central to the Palo Verde hub currently has only 187 megawatts of capacity available (ATC) for sale (SunZia exhibit SUN-3, slide 56).
2. While substantial ATC may be available into SRP's service area from Pinal Central to the north, it is the ATC across SRP's system to the Palo Verde hub and APS's service area that determines how much power can be contractually delivered. An analysis on OATI OASIS of SRP's system in September 2015 indicated that this capacity was limited to 1100 megawatts (N. Meader testimony of November 2, 2015).
3. In addition, the Salt River Project is planning to greatly expand natural gas generation in the Southwest Valley area and would use the new 500-kilovolt lines constructed out of Pinal Central to the west and north to deliver much of this power. This generation includes a new 1,150-megawatt power plant at Pinal Central and a new 900-megawatt power plant at the Abel Substation (my testimony of November 2, 2015; Exhibit NMM-25). These two power plants will greatly reduce the transmission capacity available to SunZia and New Mexico developers to deliver power westward.

Given these constraints and the requirement to reach the California with large blocks of power to secure financing, constructing more than one 500-kilovolt AC line as approved in the Certificate of Environmental Compatibility by the Power Plant and Transmission Line Siting Committee does not appear feasible. The inability to construct a second line is unquestionably true for the 3000-kilovolt DC option.

The issuance of any CEC should rest upon what the Applicant can concretely demonstrate is possible to build. The construction of multiple lines should be predicated on the Applicant demonstrating through ATC analysis with the relevant utilities or entities that would provide the connecting transmission capacity that the capacity actually exists to reach the necessary supporting markets. Establishing the existence of such capacity, that it will be added, or that it is planned should be a condition of any CEC that permits construction of a second line.

I reiterate again what Electrical District 4 stated in its motion to intervene in SunZia's petition to the Federal Energy Regulatory Commission for a Declaratory Order (Exhibit NMM-29):

> At its terminus, the Project is still remote from the referenced Nevada and California markets, and will require additional unidentified facilities and upgrades to deliver to the California market.
>
> Without additional definition of how Project power will reach market, including additional transmission elements and/or contractual arrangements, the Project is not sufficiently defined.

V. THE LACK OF REDUCTION OF TRANSMISSION CONGESTION AND A LIMITED INCREASE IN RELIABILITY

The Applicant claims that the project will reduce transmission congestion in Southwestern New Mexico and southern Arizona, yet because of how SunZia interconnects with the grid, no congestion relief is achieved on the existing system, most importantly for the Tucson metro area, which ACC staff assumed would occur. While SunZia connects with one of Tucson Electric Power Company's 345-kilovolt lines linking TEP's Springerville generating station with Tucson, SunZia does not increase the transfer capability to Tucson and thus does not reduce congestion on TEP's grid supplying the Tucson metro area. SunZia's interconnection with TEP's system cannot bring any additional power to TEP's service area.

In addition, because of the removal of all SunZia connections (substations) with the southwestern New Mexico grid, TEP and other Arizona utilities would not have access to existing conventional (natural gas) generation from the east for their use. SunZia would allow access to power sources from the northwest, but this increased access was also recently provided by TEP's new 500-kilovolt line linking the Pinal Central substation with the Tortolita substation.

In contrast to SunZia, the proposed Southline Transmission Project would have two interconnections with the southwestern New Mexico 345-kilovolt grid and a dozen interconnections with the southern Arizona grid. Southline would be fully integrated with TEP's grid serving Tucson, including TEP's 138-kilovolt system and 345-kilovolt system. Southline would also connect with the central Arizona 500-kilovolt grid at the Tortolita substation. Southline *would* increase the power that can flow to metro Tucson and *would* reduce congestion on TEP's transmission system and the more local grid in southeastern Arizona. Southline would also increase the reliability of the full southeastern Arizona grid.

While SunZia would provide some increase in reliability to TEP's transmission system by linking TEP's 345-kilovolt Tucson–Springerville line with the Pinal Central substation, this link does not address any outstanding reliability issues. TEP's initial 345-kilovolt transmission line connecting the Sprngerville generating station with Tucson has existed for 30 years without any pressing reliability concerns. While the Salt River Project has claimed some potential reliability benefit from SunZia, this benefit would be minimal given SRP's total load. The only reliability benefit SunZia would provide SRP would be a second path to obtain power primarily from SRP's Springerville coal-fired generating station. The plant can contribute up to 400 megawatts of power to SRP's peak load of 7,000-8,000 megawatts. SRP's Coronado generating station to the west has existed since 1980, with power being fed to Phoenix through an SRP 500-kilovolt

line. As with TEP, SunZia is not addressing any outstanding reliability concern on SRP's transmission system.

VI. INCOMPATIBILITY OF THE SALT RIVER PROJECT'S PLANNED USE OF SUNZIA WITH THE PROJECT'S STATED PURPOSE

Of the utilities involved in SunZia, the Salt River Project has the greatest percent interest in the development (current) phase of the project. This percentage was originally 13% but has been reduced to 4.8%, as given in the response to the ACC's data request (Exhibit ACC-5). In SRP's response to this data request, SRP stated that it no longer has any interest in New Mexico wind energy, that its renewable energy focus is on solar resources within its own service area, and that its principal interest in SunZia now is "to develop additional transmission from *existing generation sources* located in *eastern Arizona* to serve load in central Arizona."

In specifying "existing generation sources" in "eastern Arizona," SRP is referring to the Coronado and Springville coal-fired power plants. SRP owns all of Coronado and a 400-megawatt block of Springerville. SRP would use Tucson Electric Power Company's 345-kilovolt line from Springerville to SunZia's Willow substation to transfer power to SunZia's lines and would then use SunZia lines to deliver the power to Pinal Central. Using SunZia to deliver coal-fire-generated electricity violates the stated purpose of the project and ignores the future trends of Arizona generation. SRP is advocating despoiling the San Pedro Valley to gain access to a few hundred additional megawatts of coal-fired-generation when the utility may be forced to abandon that source of power in the future. The large, additional investment in base load generation that SRP has planned will be natural gas generation located mostly in its own service area. SRP should focus on what can actually fulfill its needs.

If SRP were to utilize SunZia in this way, SRP would want to use only the 161-mile segment from Willow to Pinal Central. SRP has no use for the 354-mile segment from Willow

to central New Mexico. When I asked Mr. Wray on cross examination of his rebuttal testimony on November 18, 2015 whether SRP could participate in just the Willow to Pinal Central segment, Mr. Wray said no, that SRP would have to participate in the full project if SRP wants to participate, meaning that SRP would have to invest in the remaining 354 miles of project to have the capacity on the segment it wants. This would be financially unreasonable for SRP, especially given the added expense of burying the lines on the New Mexico portion of the project. Such circumstances would seem to preclude SRP's involvement in constructing the project.

In addition, any SunZia capacity that SRP would use from Willow to Pinal Central would remove that capacity from use by New Mexico renewable energy developers to deliver power to Pinal Central, especially since the power that SRP would deliver would likely be base-load power. SRP's use would reduce the potential utilization of the remaining 354 miles of the project and make that portion less economically viable. SunZia's Application has not considered these complications.

VII. FINANCIAL RISK AND UNCERTAINTY FOR THE UTILITIES INVOLVED

In his testimony on November 4, 2015 ACC staff member Ray Williamson stated that SunZia posed no financial risk to utilities because this was a merchant project, and that if the project failed, utilities or other companies could pick up the project for "pennies on the dollar." SunZia counsel Bert Acken reiterated this argument in SunZia's closing arguments presented on November 19, 2015. This premise neglects the fact, however, that three utilities are partners in this project and that they themselves are not merchant entities. These utilities are the Salt River Project, Tucson Electric Power Company, and Tri-State Generation and Transmission Cooperative.

The participation of these utilities is split into two phases: (1) the development or permitting phase (current phase), and (2) the construction phase. To date, the risk that these

utilities have taken is limited by the development-phase agreements they entered into. No one knows the level at which they may participate in the construction phase, if they choose to do so, or what risk they may assume.

In addition, in his rebuttal testimony (November 18, 2015) Mr. Wray stated that he believes Arizona Public Service would purchase some New Mexico wind energy and that rather than pay wheeling charges to transmit the power, APS would elect to acquire and own as much SunZia transmission capacity as needed to deliver the maximum (or nameplate) capacity provided by any power purchase agreement with SunEdison.

All of this participation, in whatever mode, entails an element of risk on the part of utilities that the Corporation Commission is not in a position to police. Mr. Wray asserted in his testimony that APS and TEP have tentatively expressed interest in 300-500 megawatts of New Mexico wind energy. At a current project cost of $2.3 billion, this much capacity would cost these utilities from $230 million to $385 million. The amount of power that these utilities would acquire from such an investment, given the capacity factor of New Mexico wind, would vary from less than 150 megawatts to less than 250 megawatts. This cost is an exorbitant price to pay for the transmission capacity needed to deliver this much power. These utilities would also have to pay for the actual power in addition to this transmission cost. While such a transmission investment would avoid wheeling charges, no one has calculated what the financial advantage may be, if any, and the potential advantage was not analyzed and presented in the SunZia hearing.

As disclosed in testimony by P. Else, SunZia has conducted no economic feasibility studies to determine how SunZia will perform economically under the low utilization factors that will be associated with the delivery of nearly pure renewable energy, as SunZia has characterized the project. SunZia has conducted no cost-benefit analysis for the project as other entities or

utilities would. At this stage, no utility appears to have calculated the risk it may be taking by acquiring an interest in the project. The ultimate method of cost recovery and profit-making for SWPG and the MMR Group themselves is to sell their interest in the project, not own and operate it. In addition, Mr. Wray stated that he expected the Salt River Project and Tucson Electric Power Company to operate and maintain the Arizona portion of the project, which would require additional TEP and SRP staff and equipment. The SouthWestern Power Group and the MMR Group, which currently have a 92% interest in the project, would not do so. The lack of attention to the economic details of the project by these two companies should be a matter of significant concern to the Commission.

VIII. SUMMARY AND RECOMMENDATION

SunZia is a speculative project that would not meet any energy needs in Arizona that cannot be easily met in other ways with our own resources. Only the California energy market is sufficiently large to potentially support SunZia, and even then, whether the California market can or will absorb the power that SunZia might provide is questionable. If SunZia were successful, however, New Mexico developers would have to use up to 2,000 megawatts or more of central and western Arizona transmission capacity to deliver their power to market. This would greatly restrict Arizona's ability to develop and export its own renewable resources, most importantly our solar resources, to California. California utilities also wish to access additional conventional energy from Arizona using these same in-state transmission lines. SunZia has made no provision or transmission plans to protect Arizona from New Mexico's competition and the resultant potential loss of our transmission capacity for our own use. The Commission should require SunZia to address this conflict with a concrete, demonstrable strategy.

In addition, neither SunZia nor the Salt River Project has assessed how much central and western Arizona transmission capacity will be commercially available to deliver New Mexico's energy to market. Limitations on the central Arizona transmission system linking the Pinal Central substation with the Palo Verde hub combined with plans by the Salt River Project for future natural gas generation in the Southeast Valley indicate that Central Arizona's existing transmission system cannot commercially support more than one SunZia line. Additional transmission capacity would have to be added to commercially accommodate the power from two lines given the markets that must be reached. Most importantly, a dedicated 500-kilovolt line to the Pinal Central to the Palo Verde hub would be required. This transmission limitation would be even more exacerbated by using a DC option for the second line. The Commission is being asked to approve a Certificate of Environmental Compatibility ("CEC") for a project that Arizona's existing transmission system cannot commercially support when the market that must be accessed is fully considered. Any CEC should require concrete proof that the necessary transmission capacity will be added to support the project, stipulating that a second line, whether AC or DC, cannot be built until this is demonstrated to the Commission.

Contrary to testimony provided by the Applicant, SunZia would provide no congestion relief to southern Arizona's transmission system and would not increase the transfer capability to and within the Tucson metro area. SunZia would also not address any critical reliability needs on TEP's or SRP's transmission systems. Rather, the current transmission lines that may benefit from SunZia's connection between the Willow and Pinal Central substations have existed for up to three decades with full usage. Any reliability benefits that SunZia might offer to TEP's and SRP's transmission systems would be auxiliary rather than essential to these systems.

The Salt River Project's potential use of SunZia would be to access solely coal-fired generation in eastern Arizona and would be unrelated to renewable energy, the project's stated purpose. Despoiling the San Pedro Valley for such use when this form of generation will likely be phased out would be a travesty, especially given how Arizona's power generation will evolve in the future. Arizona's future power needs will be met with principally natural gas generation and in-state solar generation sited within the service areas of our utilities. Distributing this energy will require local transmission system additions, not large, regional transmission lines.

Lastly, neither SunZia nor the Arizona utilities that may have an interest in SunZia have provided any economic analysis giving the time required to recover project costs and how the project might perform economically under different levels of usage and energy mixes. If Arizona utilities were to own part of the project, the economic impact upon them and the risk of their participation have not been quantified by any economic feasibility or cost-benefit studies. The Commission should require SunZia to the provide the basic economic data that show how this project will perform, whether any investment in the project by Arizona utilities is cost effective, and how much risk those utilities may be assuming by participating.

Given all of these factors, the Certificate of Environmental Compatibility that the Commission has before it should be denied.

Respectfully submitted this 7th day of December 2015

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